colored plates are used to show the author's interpretation of the transformation of the resting mycoplasm into the mycelium condition of the rust.—J. C. ARTHUR.

Light relations at high altitudes.—WIESNER'S study of the *Lichtgenuss* of plants, already comprehensive for varying latitudes, has now been extended[21] to include high altitudes. During a period of thirty days from Aug. 16, photometric observations were made in the Yellowstone territory at eight altitudes ranging from 515 to 2210^{m} above sea level. The investigation shows that the behavior of plants with advancing latitude does not agree with that manifested under increasing altitude. The relative amount of available light appropriated by arctic plants increases inversely with the distance from the pole. This relation holds with increasing altitude only to a certain limit, above which a smaller and smaller share of available light is appropriated. The cypress habit of growth is evidently intended to protect from increased intensity of light, whether this accompanies low latitudes or high altitudes. This seems all the more probable because in such altitudes species having this habit do not show a defoliation from heat, which is manifested by other species that do not show it at lower levels.—RAYMOND H. POND.

Tomato rot.—VON OVEN[22] has recently described a disease of tomatoes caused by *Fusarium rubescens* Appel & Von Oven. This fungus causes a rotting of the tomato fruit, and evidently does not belong to the fungi in this group producing stem rot or wilt disease, although in cultures the pink and violet shades characteristic of the latter are also produced by this new species. As it is impossible to separate the species of Fusarium on morphological grounds, VON OVEN has attempted to distinguish this species at least from several disease-producing fusariums by their physiological characteristics. It is thus distinguished from *F. Solani*, *F. putrefaciens*, and *F. rhizogenum*. In cultures on sterilized potato small sclerotia were formed, which produced conidia after being exposed during December and January. The author concludes that this is a hibernating stage of the fungus, although he does not mention finding them in nature.—H. HASSELBRING.

Axillary scales of aquatic monocots.—As aquatic monocotyledons are by some held to be modern representatives of the more primitive angiosperms; as these forms may have been genetically related to some such type as Isoetes; and as he regards the ligule as an important phylogenetic organ, GIBSON[23] has made a study of the vestigial structures of the following families: Potamogetonaceae,

[21] WIESNER, J., Untersuchungen über den Lichtgenuss der Pflanzen im Yellowstonegebiete und in anderen Gegenden Nordamerikas. Sitzungsber. Kaiserl. Akad. Wiss. Wien, Math.-Naturw. Klasse **114**[1]:(pp. 74.) *figs. 2.* 1905.

[22] OVEN, E. VON, Ueber eine Fusariumerkrankung der Tomaten. Landw. Jahrb. **34**:489–520. *pls. 5, 6. fig. 1.* 1905.

[23] GIBSON, R. J. HARVEY, The axillary scales of aquatic monocotyledons. Jour. Linn. Soc. Bot. **37**:228–237. *pls. 5, 6.* 1905.